

What is claimed is:

1. A method for providing a composite data signal with successive logical values provided therein, comprising the steps of:

pre-processing data segments to provide at least first corresponding pre-processed segments with embedded information representing a first logical value, and second corresponding pre-processed segments with information representing a second logical value that is different than said first logical value; and

assembling particular ones of said pre-processed segments in accordance with a control signal that designates the successive logical values, to provide said composite data signal.

2. The method of claim 1, wherein:
said first and second logical values comprise binary bits.

3. The method of claim 1, wherein:
said segments of said composite data signal comprise audio data; and
the embedded information in the composite data signal is provided at a desired audibility level therein.

4. The method of claim 1, wherein:
said segments of said composite data signal comprise video data; and

the embedded information in the composite data signal is provided at a desired visibility level therein.

5. The method of claim 1, wherein:
said successive logical values identify a source of said composite data signal.

6. The method of claim 1, wherein:
said successive logical values are provided cryptographically.

7. The method of claim 1, wherein:
in said assembling step, said particular ones of said pre-processed segments are time-multiplexed to provide said composite data signal

8. The method of claim 1, wherein:
said composite data signal comprises digital data.

9. The method of claim 1, wherein:
said composite data signal comprises analog data.

10. The method of claim 1, comprising the further step of:

storing said first and second segments in a storage device prior to said assembling step;
wherein said assembling step is responsive to said control signal for retrieving the particular ones of the stored segments from the storage device to provide the composite data signal.

11. The method of claim 1, wherein:
said control signal is provided in accordance with a user request to retrieve said composite data signal; and

said successive logical values identify the user.

12. The method of claim 1, comprising the further step of:

communicating the first and second segments from a distributor in a content-delivery network to at least one user terminal in the network, where the user terminal is located remotely from the distributor;

wherein said assembling step occurs at the user terminal after receipt of the first and second segments thereat.

13. The method of claim 12, comprising the further step of:

providing an associated identification value to the user terminal;

wherein said successive logical values are determined according to the identification value.

14. The method of claim 1, wherein:

said successive logical values identify a user to which the composite data signal is provided.

15. The method of claim 1, wherein:

multiple layers of embedded information are provided in said composite data signal.

16. The method of claim 1, wherein:
a transition between the assembled segments is smoothed according to a transition function.

17. The method of claim 1, wherein:
transition data segments are provided in said composite data signal.

18. The method of claim 1, wherein:
the data segments are pre-processed to provide multi-level logical values, with $M > 2$ levels, in said composite data signal.

19. The method of claim 1, wherein:
the second segments are pre-processed to provide embedded information for representing the second logical value.

20. The method of claim 1, wherein:
said first and second data segments are stored, and said assembling step occurs, at a distributor in a content-delivery network.

21. The method of claim 1, wherein:
said pre-processing step occurs at a pre-processing module in a content-delivery network;
said assembling step occurs at a distributor in the network; and
the first and second segments are provided from the pre-processing module to the distributor in response to a request signal from a user terminal in the network for distribution thereto.

22. The method of claim 1, wherein:
the data segments comprise compressed content.

23. The method of claim 1, comprising the further steps of:
storing said first and second segments in a storage device prior to said assembling step;
providing a distributor in a network for receiving requests from a plurality of users in the network; and
for each of the users, assembling a customized composite data signal for communication to the user in accordance with the request thereof by retrieving from the storage device and assembling particular ones of said pre-processed segments in accordance with a respective control signal that designates successive logical values, to provide said customized composite data signal with said respective successive logical values provided therein.

24. The method of claim 23, wherein:
said respective successive logical values provided in said customized composite data signals provide information associated with the respective user.

25. The method of claim 1, comprising the further step of:
multicasting the composite data signal to a plurality of users in a network.

26. The method of claim 1, comprising the further steps of:

providing a distributor in a network for receiving requests from a plurality of users in the network; and

assembling a customized composite data signal for delivery to each user in accordance with the request thereof.

27. An apparatus for providing a composite data signal with successive logical values provided therein, comprising:

means for pre-processing data segments to provide at least first corresponding pre-processed segments with embedded information representing a first logical value, and second corresponding pre-processed segments with embedded information representing a second logical value that is different than said first logical value; and

means for assembling particular ones of said pre-processed segments in accordance with a control signal that designates the successive logical values to provide said composite data signal.

28. A data signal embodied in a carrier wave, comprising:

a composite data signal portion; and

an information portion with successive logical values provided in said composite data signal portion; wherein:

said information portion represents first and second logical values;

data segments are pre-processed to provide at least first corresponding pre-processed segments with embedded information representing the first logical value, and second corresponding pre-processed segments with embedded information representing the second logical value, which is different than said first logical value; and

particular ones of said pre-processed segments are assembled to provide said composite data signal portion with said successive logical values in response to a control signal designating the successive logical values.